

SENIOR SECONDARY IMPROVEMENT PROGRAMME 2013



education

Department: Education

GAUTENG PROVINCE

GRADE 12

MATHEMATICS

LEARNER HOMEWORK SOLUTIONS

The SSIP is supported by

(c) Gauteng Department of Education, 2013



TABLE OF CONTENTS

LEARNER HOMEWORK SOLUTIONS

15	Revision of Analytical Geometry (Grade 11)	3
-----------	--	----------

SOLUTIONS TO HOMEWORK: SESSION 9**TOPIC: REVISION OF ANALYTICAL GEOMETRY (GRADE 11)**

1(a)	$m_{BC} = \frac{2+2}{9-1}$ $m_{BC} = \frac{1}{2}$ $y+2 = \frac{1}{2}(x-1)$ $y = \frac{1}{2}x - 2\frac{1}{2}$	$\checkmark m_{BC} = \frac{1}{2}$ $\checkmark y+2 = \frac{1}{2}(x-1)$ $\checkmark y = \frac{1}{2}x - 2\frac{1}{2}$	(3)
1(b)	$m = -2$ $y-4 = -2(x+1)$ $y = -2x+2$	$\checkmark m = -2$ $\checkmark y-4 = -2(x+1)$ $\checkmark y = -2x+2$	(3) [6]
2	$m_{AB} = \frac{4+2}{-5+7}$ $m_{AB} = 3$ $\tan \alpha = 3$ $\therefore \alpha = 71,57^\circ$ $5x + y + 5 = 0$ $y = -5x - 5$ $m = -5$ $\tan \beta = -5$ $\beta = 180^\circ - 78,69^\circ$ $\beta = 101,31^\circ$ $\theta = 101,31^\circ - 71,57^\circ$ $\theta = 29,74^\circ$	$\checkmark m_{AB} = 3$ $\checkmark \alpha = 71,57^\circ$ $\checkmark m = -5$ $\checkmark \beta = 180^\circ - 78,69^\circ$ $\checkmark \theta = 101,31^\circ - 71,57^\circ$ $\checkmark \theta = 29,74^\circ$	[6]
3(a)	$\left(\frac{-1+5}{2}; \frac{3-7}{2}\right)$ $(2; -2)$	$\checkmark \left(\frac{-1+5}{2}; \frac{3-7}{2}\right)$ $\checkmark (2; -2)$	(2)
3(b)	$d_{PQ} = \sqrt{(-1-5)^2 + (3+7)^2}$ $d_{PQ} = 11,66$	$\checkmark d_{PQ} = \sqrt{(-1-5)^2 + (3+7)^2}$ $\checkmark d_{PQ} = 11,66$	(2)
3(c)	$m_{PQ} = \frac{-7-3}{5+1}$ $m_{PQ} = \frac{-5}{3}$ $\therefore \text{new gradient} = \frac{3}{5}$ $y+2 = \frac{3}{5}(x-2)$ $y = \frac{3}{5}x - \frac{16}{5}$	$\checkmark m_{PQ} = \frac{-5}{3}$ $\checkmark \therefore \text{new gradient} = \frac{3}{5}$ $\checkmark y+2 = \frac{3}{5}(x-2)$ $\checkmark y = \frac{3}{5}x - \frac{16}{5}$	(4) [8]